Hans Laurits Jensen, 1898-1977

MACLEAY BACTERIOLOGIST, 1929-1947

(*Memorial Series No. 26*)

Hans Laurits Jensen was born 27 June 1898 at Frederiksund, Denmark, and died in Copenhagen on 5 October 1977. He came to Australia in 1929 to take up the position of Macleay Bacteriologist of the Society, a post which he occupied for the next eighteen years until his return to the State Plant Laboratory at Lyngby in Denmark. Before coming here he trained in agronomy at his home university (the Royal Danish Veterinary and Agricultural High School), after which he had been appointed Bacteriologist in the State Plant Laboratory. A Rockefeller Grant then enabled him to work for two years with H. G. Thornton at the Rothamsted Experimental Station before his Linnean Society post in which he was to make such a notable contribution. Work on free-living nitrogen fixation which largely occupied the middle part of his Australian period earned Jensen the doctorate of his university. From 1943 to 1947 he combined his continuing research programme with lecturing in Bacteriology to science students at the University of Sydney. Returning to Denmark in 1947, he was in charge of bacteriology in the State Plant Laboratory, completing his service with seven years as Director until his retirement in 1968.

During his career Dr Jensen published more than 170 articles, of which 35 were very substantial contributions to the *Proceedings* of this Society. He became recognized as an outstanding agricultural microbiologist, particularly in connection with organic matter decomposition, nitrogen fixation and soil fertility; he was the recipient of many awards, both in his native Denmark and on the world scene. Hans Jensen played a significant editorial role in several internationally recognized journals and was commonly consulted as examiner and research adviser. It was a measure of the man's influence, and of the high regard in which he was held, that colleagues and friends commemorated his seventieth birthday with a volume of scientific articles by thirteen contributors from eight countries representative of north-south and east-west hemispheres.*

Dr Jensen's research interests were wide indeed, ranging from several major contributions to the activity, nature and systematics of soil bacteria (notably actinomycetes and corynebacteria) to more immediately practical matters concerned with the decomposition of soil organic matter, the degrading of diverse herbicides and other potent organic molecules which under present day farming practice find their way into the soil. At no stage did Jensen restrict himself to a narrow field although, of course, the emphasis was adjusted from time to time. For example his interest in biological nitrogen fixation was maintained over some thirty years and included many investigations with both free-living and symbiotic forms. Particularly it was Jensen's critical quantitative studies of the significance and requirements of non-symbiotic nitrogen fixation which brought about a more realistic re-assessment of its limited contribution to maintaining soil nitrogen under conditions of agricultural practice in Australian wheat production. At the same time Jensen contributed most significantly to a better knowledge of the taxonomy of the free-living aerobic nitrogen-fixing bacteria as well as the pasture legume: *Rhizobium* association. Study of the latter was initiated during the last part of his period as Macleay Bacteriologist, at a time when

*Festskrift til Hans Laurits Jensen — Gadgaard Nielsens Bogtrykkeri, Lemvig, 1968.

there had been very little sound work along these lines accomplished on the Australian scene, but when this country's work on symbiotic nitrogen fixation was about to take off at a greatly accelerated pace. Jensen's work in Australia and, less intensively, after his return to Denmark, remains a valuable part of our body of knowledge of this vastly important symbiosis.

Besides these major continuing interests Jensen was responsible for comprehensive articles in the wider field of soil microbiology and methodology. According to the needs of the occasion (including the war years) he was also prepared to give his time ungrudgingly to the investigation of practical aspects of microbiology which took in such diverse topics as the suitability of substitute agars, dew-retting of flax, ensilage, antifungal preservatives and the safe storage of blood.

For most of his stay in Australia Jensen was of necessity a lone worker, obliged to make the best he could of a quasi-official arrangement between the Society and the University of Sydney. A shrinking effective budget as post-war inflation leapt ahead at the same time as the income from the Macleay bequest remained static, or declined, was a constant restraint. The late Professor Hugh Ward helped by extending the hospitality of the Bacteriology Department to provide accommodation and some basic facilities; considerable support was provided by several Banks, particularly in providing a greenhouse and permitting the employment of a graduate research assistant. Despite these limitations Jensen was able by temperament and ability to use his time in Australia as probably the most productive period of his career. He did this with a series of deceptively simple but beautifully designed and executed experiments that gave clear answers to well directed questions. At times indeed so economical of time and effort was his experimentation, so free his work area of clutter, it seemed that papers could be written directly from the laboratory bench. Hans Jensen truly belonged to the classic tradition of Winogradsky and Beijerinck; his work was a conjunction of impeccable technique and ability to think a problem through to a logical and practical significant conclusion — qualities sometimes missing from contemporary "black-box, publish-or-perish" exponents of the art.

We count ourselves privileged to have enjoyed his professional co-operation and personal friendship both in Australia and when we visited him, his wife Helene and his family in Denmark. Agricultural microbiology is in so many ways the better for Hans Jensen's long and distinguished contributions.

Y. T. Tchan J. M. Vincent